

A Timeline of Federally Funded Oil R&D

Program roots		Fundamentals	Military applications		Modern transportation	
1910s	1920s	1930s	1940s	1950s	1960s	

1918:
1st petroleum
research center in
U.S. established at
Bartlesville, OK

1936:
BPES established

1948:
Synfuels
research begins

1954:
Morgantown
site established

1959:
BPRC
established

1971:
BERC
established

1910s



Congress authorizes oil
research

1930s & 40s



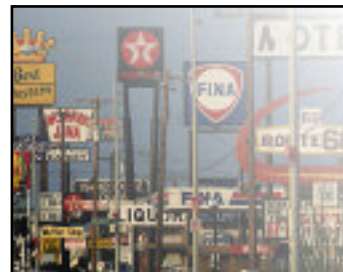
1st gas condensate
research employed in
WWII aviation fuels;
Development of synthetic
rubber critical to war effort

1950s



Sulfur removal from fuels

1960s



Surge in oil company R&D

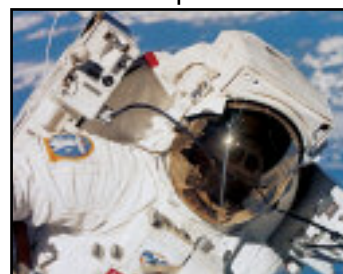
1920s



1st waterflood research



Thermodynamic properties
of petroleum (jet fuel,
synthetic rubber)



Space program fuels





Environmental awareness regulation

Future oil supply concerns

1977:
BETC
established

1978:
DOE,
BPO
created

1985-1997:
Reservoir characteriza-
tion push; Best Practices

1990s:
Class Program; Reservoir
Life Extension; Native
American Initiative

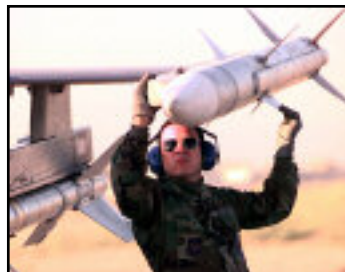
1997:
NPTO
established

2000:
NETL/NPTO

2001:
AEO
opens

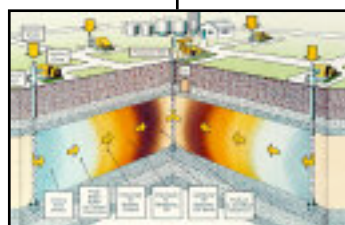
2004:
NETL

1970s



Cruise missile fuel
chemistry

1st mud-pulse telemetry
paves way for downhole
data gathering



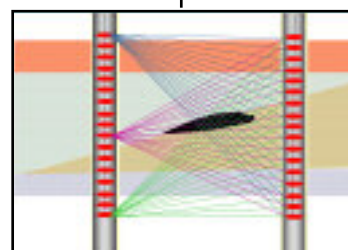
1st chemical EOR

1980s



1st PDC bits (now 1/3 of
market)

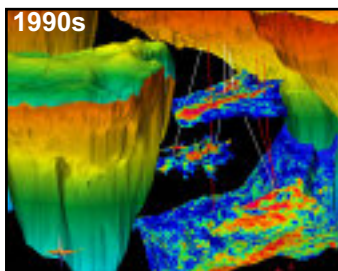
1st through-casing
resistivity tool (downhole
logging)



1st cross-well seismic
(subsurface imaging)

1st 3-phase relative
permeability measurement

1990s



Subsalt imaging (Gulf of
Mexico drilling)

1st 4-D seismic
(more comprehensive
subsurface imaging)



Hydrates program
established

1st borehole seismic
instruments

Vertical seismic profiling

2000s



Microhole initiative



Microwave processing of
composite materials

Acronyms

BPES	Bartlesville Petroleum Experiment Station
BPRC	Bartlesville Petroleum Research Center
BETC	Bartlesville Energy Technology Center
DOE	Department of Energy
BPO	Bartlesville Project Office
NPTO	National Petroleum Technology Office
NETL	National Energy Technology Laboratory
AEO	Arctic Energy Office